Furthering
Cancer Education
in Nova Scotia:

Nurses Needs Assessment

Final Report

November 2002

Cancer Care
Nova Scotia

Cancer Care Nova Scotia

Foreword

One of the principal elements of the mandate given to *Cancer Care Nova Scotia* is the responsibility to "ensure that health facilities and health professionals remain current with emerging knowledge, guidelines and policies for the prevention and treatment of cancer." This is indeed mission critical to ensure that we have a quality cancer system in Nova Scotia.

The presence of a highly competent, informed and knowledgeable cadre of health professionals competent in the management of cancer patients and their disease as well as in cancer prevention, early detection, and palliative care, is at the core of a quality cancer system for Nova Scotia.

To determine the skills and competencies needed by health professionals, *Cancer Care Nova Scotia* undertook a series of three needs assessments and thirteen focus groups that resulted in the most comprehensive assessment of oncology education undertaken in Canada, and likely in all of North America. It was important to conduct this magnitude of assessment as there was no baseline understanding of what nurses, physicians, pharmacists and other health professionals already knew about cancer management. Additionally, the assessment looked at professionals' preferred modes of learning and maintaining currency in the field. To ensure the correct evidence-base for developing cancer education programming, *Cancer Care Nova Scotia* surveyed provincially 2403 nurses, 561 physicians and 839 pharmacists. The focus groups, conducted in all health districts across the province, took an in-depth look at the needs of physicians, nurses, and pharmacists as well as other health professionals. The resulting information is contained in three separate reports generated by discipline (physicians, nurses and pharmacists) and will be published in November 2002. The report from the focus groups will be available in December 2002. Together, they are the most powerful understanding of the needs of health professionals in cancer care that exists at this time.

This information will be the backbone for developing education programs that will be both multi-disciplinary and discipline-specific. They will become the core of an approved program for community cancer care. Better yet, they will ensure that Nova Scotia has the ability, through its committed health professionals to provide the best possible, evidence-based care for cancer patients.

Through education programming, based on the evidence from the needs assessments, we will ensure that health professionals have the skills and competencies they require to care for cancer patients now and into the future.

Andrew Padmos, BA, MD, FRCPC
Commissioner, *Cancer Care Nova Scotia*

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This needs assessment was undertaken by *Cancer Care Nova Scotia* (*CCNS*) in collaboration with the Canadian Association of Nurses in Oncology (CANO), Nova Scotia Branch.

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The College of Registered Nurses of Nova Scotia assisted in identification of the survey sample. Finally, Heidi Little and Kristina Allsopp of *CCNS* were instrumental in the administration of the survey.

This report was prepared by Paul Chaulk, MSc, of the Atlantic Evaluation Group Inc. with the assistance of Anne Murray, BSc MAEd, *CCNS* Education Coordinator and Brenda Sabo, RN, MA, Coordinator, Surgical Oncology Network and the input of the Nursing Advisory Group and the Education Advisory Group of *CCNS*.

For additional information on this survey or to obtain a copy of the Technical Appendix that contains detailed results for each survey question, please contact:

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Table of Contents

Executive Summary 5

1. Introduction 11

2. What You Need to Know About This Survey 13

3. Findings 15

    3.1 Description of Survey Respondents 15

    3.2 Reasons for Obtaining Cancer Education 19

    3.3 Continuing Education Needs 20

    3.4 Continuing Education Resources and Preferences 22

    3.5 Self-Rated Knowledge and Skills 30

4. Discussion and Recommendations 34

5. Appendix A - Nurses Needs Assessment Advisory Group 40

Executive Summary

The needs assessment was undertaken by *Cancer Care Nova Scotia* in collaboration with the Canadian Association of Nurses in Oncology (CANO), Nova Scotia Branch. The purpose of the needs assessment was to obtain the best information possible to assist in planning education programs for nurses working with individuals and families living with or at risk for cancer. The questionnaire was developed in consultation with the Nursing Advisory Group of *CCNS*. All nurses with oncology and/or palliative care expertise were sampled along with a random sample of all other nurses. Questionnaires were mailed in November 2001 followed later by a reminder postcard and a reminder letter.

The overall response rate was 49% ranging from 40% to 56% per district. The responses included 625 completed surveys (27% of the sample) and 530 nurses who indicated they did not provide care for cancer patients or their families (23% of the sample). Nurses responded from a variety of settings, education levels and nursing roles. Nurses were for the most part very experienced in cancer care. Fifty-three percent of nurses had been employed in a cancer care setting for 11 years or more. About half of nurses spent more than 25% of their time caring for cancer patients and about half spent less time. Twenty-four percent of nurses indicated self-rated expertise in one or more areas of oncology and 35% indicated self-rated expertise in palliative care.

Nurses identified their top five issues that required continuing education in an open-ended question. The most frequently mentioned needs, in descending order, were to know more about: treatments, medications and their side effects; management of symptoms and complications; basic information on cancer; interacting with / supporting patients and families; and palliative care. The issues requiring continuing education were very consistent across categories of expertise and time spent with cancer patients; districts; years spent caring for patients with cancer and education level.

The survey also assessed the continuing education resources available to nurses and their willingness to devote time to continuing education. Computer access and Internet access were both available to 80% of nurses across all districts (at work and/or at home). However, only 21%

considered themselves computer literate and only 36% rated themselves as familiar with using the Internet. Nursing/medical journals, fax machines and Telehealth were available to a majority of nurses across districts. Nurses were almost all (95%) willing to spend time to fulfill their learning needs. The most frequently suggested times were up to one day per week or up to one day per month. Most nurses were willing to devote at least some of their personal time to fulfill their learning needs but only one-third of nurses were willing to complete all of their continuing education on their personal time.

Nurses' preferences for being supported in receiving new knowledge and skills in cancer care at a continuing education level included: attending educational sessions, work place support (i.e., management supporting continuing education for nurses); having a list of nurses, health professionals and agencies to contact about specific issues; working with / shadowing a nurse who is a specialist in cancer care; and having a nurse come to their place of work to teach them. Eight percent of nurses were interested in pursuing an undergraduate nursing degree and 16% of nurses were interested in pursuing a graduate nursing degree. Twenty-six percent of nurses were willing to seek oncology certification by the Canadian Nurses Association (CNA) once they have met the qualification criteria and 36% were willing to seek palliative care certification by the CNA when it becomes available.

The preferred methods of receiving further education were person to person; meetings and conferences; and formal courses. The preferred location to receive continuing education for a majority of nurses was their place of employment followed by their home or at a regional or community hospital. There was no clear-cut preference for times of day to receive continuing education. Sixty-two percent indicated they were willing to receive continuing education in the daytime followed by 39% in early evenings and 31% in late evenings. Most nurses, however, preferred to receive continuing education during weekdays in the Fall, Winter or Spring. Less than one-third of nurses were willing to travel more than 50 km at their own expense to receive continuing education. Regardless of the distance they were willing to travel, most were willing to travel between once a week and once a month to receive continuing education. The decision to participate in continuing education depends on both personal and work-related factors including time, finances, program relevance, family demands, support from their employer, work demands and many other factors.

The needs assessment survey asked nurses to self-rate their current knowledge and skills in 135 specific areas under nine standards of care. Detailed breakdowns of their self-rated knowledge and skills on these areas are available in the Technical Appendix for curriculum planning purposes. In this summary report, aggregated results on selected items are presented to give an overall picture of current knowledge and skills related to the top five needs identified by nurses as well as for each of the nine standards.

The discussion of survey results and a subsequent planning session with the Nursing Advisory Group led to the development of the recommendations for the design and implementation of cancer education for nurses. It should be noted that these recommendations are part of a larger effort by the Education Advisory Group of *CCNS* and their implementation depends upon factors such as availability of finances and human resources, as well as various other constraints. The recommendations were as follows:

1. *CCNS* lead the development and support the delivery of a series of continuing education modules on the above topics, building on what's already available in those areas. These modules would be tailored for specific disciplines, districts and settings, as needed.

2. *CCNS* support the development of advanced modules, subsequent to the completion of the advanced modules, based on self-learning packages such as case studies and distance learning with mentors.

3. *CCNS* support oncology nurses by providing mentors for in-person training of specialized oncology skills.

4. *CCNS* organize and support the development and delivery of in-person cancer educational modules during scheduled work times in each District. This may include supporting the development of clinical nursing resources or experts in cancer care in each district to lead the implementation of the basic modules.

5. *CCNS* ensure that educational opportunities are made available to a broad cross-section of nurses, including those based in institutions and in the community, who care for patients with cancer since there was a high level of expressed interest and need among nurses who care for patients with cancer in a wide variety of levels of expertise and settings. Regional or community hospitals in each district may provide a location that would be accessible to nurses in various facilities and in the community.

6. Once the basic modules have been made available across all districts, *CCNS* continue its work to make additional resources and updates available through distance education or self-directed learning opportunities. This would maximize the use of resources and capitalize on the willingness of nurses to carry out some of their personal education on their personal time. A directory of available educational resources and opportunities and a directory of health professionals and agencies who could be called regarding specific issues would be a useful and credible undertaking for *CCNS*.

7. *CCNS* facilitate access to formal oncology nursing programs at both an undergraduate and graduate university level. This might include lobbying for the availability of flexible programs for nurses in all districts and lobbying for financial supports.

8. *CCNS* support nurses to attain the educational requirements for certification by the CNA in both oncology and palliative care by ensuring that education modules and opportunities are available to supplement the study guides available from CNA.

9. *CCNS* work with services and facilities to support experienced cancer care nurses to mentor newer nurses in the field.

10. *CCNS* work with the Department of Health, College of Registered Nurses of Nova Scotia (CRNNS) and other stakeholders to examine potential human resource shortages in oncology nursing.

11. *CCNS* work with stakeholders to develop and implement a communication program to increase the profile of oncology nursing as a career choice.

12. *CCNS* support curriculum development by making detailed results regarding knowledge and skills under each standard of care (available in the Technical Appendix) broadly available.

13. *CCNS* work with various stakeholders, including the Department of Health, to increase the level of resources devoted to continuing education for nurses. Once increased funding is available, *CCNS* advocate to service administrators for the importance of continuing education for nurses and the need for protected time and other resources to take advantage of those opportunities.

14. *CCNS* establish a Nurses Education Sub-Committee with representation from across the province, under the *CCNS* Education Advisory Group, to review these results and to make recommendations for implementation.

The Nursing Advisory Group felt that educational efforts should build on what is already available and connect to existing programs to make best use of resources. Educational opportunities should be tailored to meet the needs of nurses with different levels of expertise working in a variety of settings and locations. It is necessary to work with nursing leaders in each area to ensure that each educational package meets their needs.

1. Introduction

Cancer Care Nova Scotia is a program of the provincial Department of Health that started in 1998. *Cancer Care Nova Scotia's* mission is to "help achieve excellence in cancer prevention, treatment, care and research for all Nova Scotians". Its vision is to reduce the effects of cancer on individuals and families through research, prevention and screening, and to lessen the fear of cancer through education and information. "Nova Scotians diagnosed with cancer, together with family, friends, and community, will find all aspects of cancer care excellent in quality, professional in focus, compassionate in delivery, and caring in spirit." This needs assessment will help *CCNS* in meeting its mandate to facilitate cancer care education for nurses.

The needs assessment was undertaken in collaboration with the Canadian Association of Nurses in Oncology (CANO), Nova Scotia Branch. CANO is a national nursing interest group dedicated to the provision of quality nursing care for persons affected by cancer. Since its inception in 1985 membership has grown to include nurses from across Canada who are interested in or involved with the provision of nursing care to persons experiencing cancer. Its mission is to support "registered nurses in providing excellence in nursing care across the entire cancer control system for individuals, families, and communities who are affected by or who are at risk for developing cancer."

The purpose of the needs assessment was to obtain the best information possible to assist in planning education programs for nurses working with individuals and families living with and at risk for cancer. The objectives of the Nursing Needs Assessment Survey were to:

- Identify the educational needs nurses believe are required to achieve the desired standards of care for cancer patients in Nova Scotia.
- Determine nurses' preferences for accessing existing resources to advance the knowledge and skills needed to support quality cancer care.
- Describe the varying strengths and limitations of educational resources to support the nurse working with cancer patients and their families in Nova Scotia.
- Help inform *CCNS* of priority educational needs required to maintain and/or improve the competency of nurses providing cancer care in Nova Scotia.

- Provide the basis, in collaboration with key oncology nursing partners, for the design and implementation of educational programs that support the desired standards of care for cancer patients.

2. What You Need To Know About This Survey

The questionnaire was developed in consultation with the Nursing Advisory Group and was designed in three sections:

Section A: Continuing Education Resources
Section B: Standards Of Care
Section C: Personal Background

Doris Howell (RN, MScN, PhD(c)), an oncology nursing consultant, was contracted by *Cancer Care Nova Scotia* to develop Section B of the questionnaire. The Canadian Oncology Nursing Association Standards of Nursing Practice [1] and Hospice Palliative Care Nursing Standards of Practice [2] were used to develop a template of core knowledge and skills required to support these standards. Survey questions were developed from the core knowledge template. Input and final approval was obtained from the Nursing Advisory Group to ensure its relevance and applicability to the local context and across care settings. The survey was pilot-tested via mail with a convenience sample of 22 nurses practicing in Nova Scotia who were identified by the Nursing Advisory Group. It should be noted that all results are self-reported by respondents.

A stratified, sampling procedure was employed whereby all nurses with oncology and/or palliative care expertise, that were registered with the College of Registered Nurses of Nova Scotia (CRNNS) or found in the *CCNS* list of palliative care nurses, were sampled. To ensure completeness of the oncology nurses sample, two additional methods of identification were used: 1) the QEII and Cape Breton Cancer Centre provided a list of oncology nurses; and 2) the IWK Grace handed out the questionnaire to all oncology nurses in that institution as it was not possible to release their list of oncology nurses. A random sample of all other nurses in the CRNNS database was done in each District Health Authority to bring the total number of questionnaires mailed to 220 in each of South Shore District Health Authority; Southwest Nova

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[1] *"Canadian Association of Nurses in Oncology/L'Association Canadienne Des Infirmieres En Oncologie. Standards of Care, Roles in Oncology Nursing, Role Competencies, Draft #5. September 11, 2000." These standards have recently been revised and are being distributed over the next few months.*

[2] *The April 2001 draft standards developed by the Canadian Hospice Palliative Care Association Nursing Standards Committee were used in the development of this survey. These standards were finalized in February 2002.*

District Health Authority; Annapolis Valley Health; Colchester East Hants Health Authority; Cumberland Health Authority; Pictou County Health Authority; and Guysborough Antigonish Strait Health Authority; to 324 in the Cape Breton District Health Authority; and to 539 in Capital Health.

Questionnaires were mailed in the third week of November 2001 with a stamped, self-addressed return envelope. The package also included a voucher that would be entered for one of three prizes of gift certificates. Nurses who did not provide care for any cancer patients or their families were asked not to complete the questionnaire but to check the appropriate box on the voucher and return it in the self-addressed envelope. The voucher also included check boxes for nurses to indicate if they wanted to receive a copy of the report and if they were willing to participate in focus groups related to cancer education. A reminder postcard was mailed in the second week of December 2001 and a reminder letter was mailed in the second week of January 2002.

Data was analyzed using common descriptive and inferential statistics at an alpha level of 0.01. Open-ended data was organized into themes according to frequency of responses.

3. Findings

3.1 Description of Survey Respondents

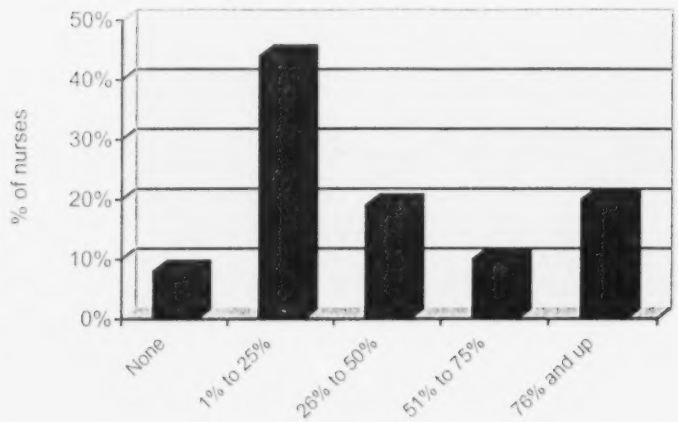
The overall response rate was 49% ranging from 40% to 56% per district, after wrong addresses were excluded. The responses included 625 completed surveys (27% of the sample) and 530 nurses who returned the voucher indicating they did not provide care for cancer patients or their families (23% of the sample). *[It should be noted that for many survey questions, nurses were able to check multiple responses and/or not all nurses responded to the question. Therefore, in many cases, the numbers do not add up to the total of 625 respondents.]*

Information was collected regarding the employment setting and status of respondents. Most nurses (70%) worked in a hospital setting. There was good representation from other settings including nursing homes / Long Term Care (LTC) (16%), Home Care (14%), Community Health (8%) and other settings (14%). Most nurses worked in regular, full-time employment (67%) or regular, part-time employment (23%) compared to 10% who worked in casual positions.

A variety of education levels were reported. Eighty percent of the sample had a nursing diploma and 23% had post-diploma certification. Of these, 4% (22 nurses) were certified in Oncology by the Canadian Nurses Association (CNA); 4% had completed other oncology certificate courses and 11% had completed certificate courses in palliative care. Many nurses had also completed a university degree in any discipline. Thirty-three percent had completed a Bachelors degree (93% of those were in the nursing field) and 2% had completed a graduate degree (43% of those were in the nursing field). Other types of degrees included education and psychology.

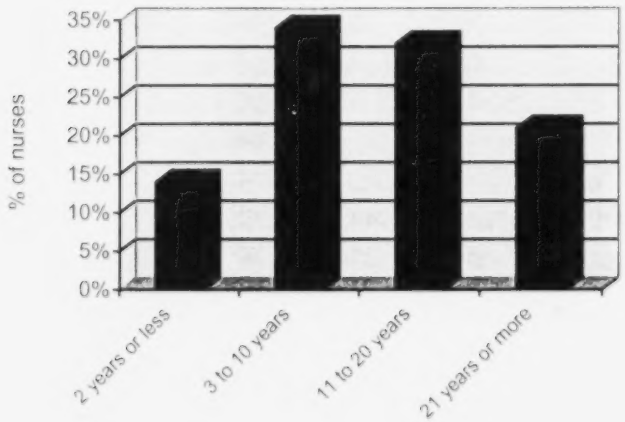
Most nurses worked in a staff nursing role (81%). Other roles included nurse educator (7%), nurse coordinator (7%), nurse consultant (5%), administrator (3%) and others such as a family practice nurse, executive director or research coordinator (2% each or less). There was a variety in terms of the amount of time spent with patients ranging from no time to greater than 75% of the time (Figure 1).

Figure 1: Proportion of time spent caring for patients with cancer.



Most nurses cared for patients requiring chronic (70%), palliative (69%), or acute care (65%). Preventive (29%), emergency (21%) and critical / intensive care (16%) patients were less commonly cared for by the respondents. These nurses were for the most part very experienced in cancer care (Figure 2). Fifty-three percent of nurses had been employed in a cancer care setting for 11 years or more.

Figure 2: Length of time employed in cancer care.

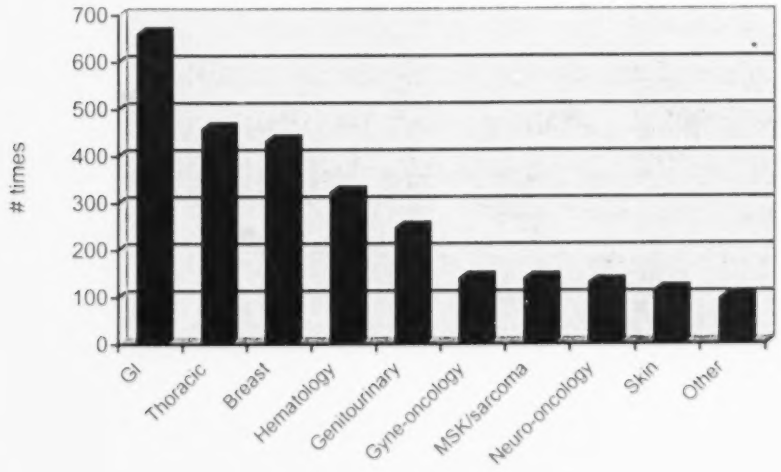


Nurses were asked to indicate their self-rated areas of expertise in various areas under four categories of direct care, administration, education and research. Twenty-four percent indicated expertise in one or more areas of oncology and 35% indicated expertise in palliative care. The

specific areas of oncology expertise included: medical oncology (15%), surgical oncology (9%), chemotherapy clinic (8%), radiation oncology (6%), cancer centre (5%) and other oncology expertise such as hematology (3%). Other commonly indicated direct care expertise included medical/surgical (41%), geriatrics (34%) and LTC (29%). Service administration (11%) was the most common area of administration expertise. Nursing research (6%) was the most common area of research expertise. All three potential areas of education expertise were relatively common with 31% teaching clients, 18% teaching employees and 14% teaching students.

Nurses were asked to list the five most common types of cancer seen in their practice. These cancers were combined into 10 categories. The most common cancers were gastrointestinal, thoracic, breast, hematology and genitourinary, in that order (Figure 3). *[Note: Since one nurse could list several types of cancer in a particular category, the number of times a category was listed may exceed the number of nurses.]* There were some differences between districts in the five most common types of cancers nurses reported seeing in their practice (see Technical Appendix for details).

Figure 3: Most common types of cancer seen in nurse's practices.



For the purposes of exploring the responses by levels of expertise and experience, the results of many survey items were broken down according to two groupings of respondents derived by combining several variables on the survey. It was viewed to be important to compare the current knowledge and skills and the continuing education needs of those nurses with the highest level

of self-rated expertise and experience to those nurses with less expertise and experience. This comparison would be useful in the design of future continuing education programs for various groups of nurses. These groupings were arrived at following an extensive analysis to determine which variable breakdowns best explained the patterns of responses. The oncology expertise breakdown was as follows:

- Oncology expertise (certified) and > 75% of time spent with cancer patients;
- oncology expertise (not certified) and > 75% of time spent with cancer patients;
- oncology expertise and <= 75% of time spent with cancer patients; and
- no oncology expertise.

Those nurses with self-rated expertise in oncology and greater than 75% of time spent with cancer patients (regardless of certification) were more likely to work in Capital Health in a hospital setting. Those with no self-rated oncology expertise were much more likely to work in home care, nursing homes or long term care settings and more likely to work outside Capital Health. Sixty-one percent of those with no oncology expertise spent 25% or less of their time seeing patients with cancer.

While it is recognized that palliative care is part of the continuum of oncology nursing, it was seen to be useful to break out self-rated palliative care expertise from oncology expertise for the purposes of designing educational programs and supports. An oncology and palliative care expertise breakdown was as follows:

- Oncology expertise only;
- both oncology and palliative care expertise;
- palliative care expertise only and greater than 50% of time spent with cancer patients;
- palliative care expertise only and less than or equal to 50% of time spent with cancer patients; and
- no oncology or palliative care expertise.

Nurses with self-rated expertise in oncology or both oncology and palliative care were more likely to work in Capital Health in a hospital setting. Nurses with palliative care expertise only

and > 50% of time spent with cancer patients were also more likely to work in a hospital setting but in hospitals outside of Capital Health. Nurses with palliative care expertise only and <= 50% of time spent with cancer patients and those with neither oncology nor palliative care expertise were more likely to work in home care, nursing homes or long term care settings and were more likely to work outside Capital Health. Seventy-three percent of those with no oncology expertise spent 25% or less of their time seeing patients with cancer.

3.2 Reasons For Obtaining Cancer Education

Nurses were motivated to obtain cancer education for a variety of reasons, as expressed in open-ended responses. The most common reason, cited by 29% of nurses, was to improve their practice and/or to deliver the best / most effective care. Many nurses (25%) also indicated their desire to stay current and to increase their knowledge and understanding of cancer. A further 17% of nurses were motivated by their need to support patients and families and help them deal with their cancer. The personal or family experience of cancer was mentioned by 15% of nurses. The fact that cancer is so common or prevalent was also a concern for 13% of nurses. Various palliative care issues were listed as reasons by 12% of nurses. Other reasons given included to learn about specific topics such as treatments and complications; to help them in their work as a nurse educator; to help them provide information to patients and families; to improve confidence in their work; to improve cancer care in rural areas; and to support families who care for patients at home. The following verbatim quotes illustrate some of the reasons given by nurses.

> *"I want to provide the best possible care for my clients, i.e. safe, knowledgeable, ethical care. [I have] a family member with cancer and have viewed the health care system from both sides and realize there is room for improvement."*

> *"I think nurses can be the "leaders" in the medical team when it involves palliative care- the physical, emotional, and spiritual needs- viewed as a "whole"."*

> *"With advances in technology, an aging population and expansion of cancer care and treatment, education is necessary for nurses working in oncology."*

"[I] would like to be able to provide knowledgeable care to cancer patients. Working in a rural setting, the nurse is most visible caregiver and is often called upon for advice, etc."

3.3 Continuing Education Needs

Nurses self-identified their top five issues that required continuing education in an open-ended question. The most frequently mentioned need was to know more about treatments, medications and their side effects. The second most frequently mentioned need was regarding management of symptoms and complications. The third most frequently mentioned need was for more basic information on cancer. Rounding out the top five needs were education on interacting with or supporting patients and families and palliative care. Many other needs were also identified, as shown in Table 1.

The issues requiring continuing education were very consistent across categories of expertise and time spent with cancer patients; districts; years spent caring for patients with cancer and education level. The only exceptions were that nurses with oncology expertise only, but not palliative care expertise, were less likely to need continuing education on management of symptoms and complications. As well, nurses with less than two years caring for patients with cancer (regardless of expertise) were more likely to need continuing education on psychosocial issues. Finally, nurses with 21 years or more caring for patients with cancer (regardless of expertise) were more likely to need continuing education on resources for home and community.

Table 1. Most significant issues that require continuing education (open-ended question).	
Issue	**% of nurses [3]**
Treatments, medications and side effects	**65%**
Treatments and their side effects (not specified)	46%
Chemotherapy administration and side effects	23%
Medications and side effects	15%
Alternative / complementary therapies	10%
Radiation therapy and side effects	5%
Surgery and post-operative care/treatment	3%
Management of symptoms and complications	**59%**
Pain management	49%
Other symptoms and complications	19%
Oncological emergencies	7%
Basic information on cancer	**37%**
Types and/or stages of cancer	17%
Pathophysiology of cancer	10%
Info on specific type of cancer e.g., lung	10%
Detection, diagnosis and screening	8%
Pediatric oncology	2%
Genetics	1%
Interacting with patients and their families	**32%**
Supporting or dealing with patient and family concerns and fears	32%
Communication with patients and families	6%
Palliative care	**32%**
Various aspects of palliative care	31%
Grief / bereavement	5%
Psychosocial issues	**18%**
Psychosocial issues	11%
Patient / family coping	6%
Spirituality	2%
Resources for home and community	**13%**
Resources in community	9%
Home care / supports	3%
Financial assistance for patients / families	3%
Technical skills / procedures	**12%**
Prevention / promotion	**9%**
Nutrition	**8%**
Information and education for patients and families	**8%**
Patient / family / general public education	6%
Sources / continuity of info for patients / families	2%
Staff support / communication / teamwork / relationships	**7%**
Other CE needs	**30%**

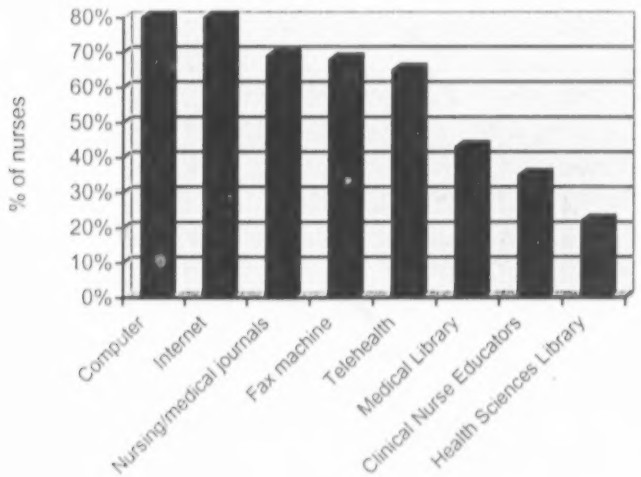
[3] *Note: The percentages of nurses may not add up to the total percentage of nurses under each continuing education need since one nurse may have written several responses under each topic.*

3.4 Continuing Education Resources and Preferences

The survey also assessed the continuing education resources available to nurses, their willingness to devote time to continuing education, their preferred methods and locations to receive continuing education as well as the factors that would affect their decisions to participate in continuing education.

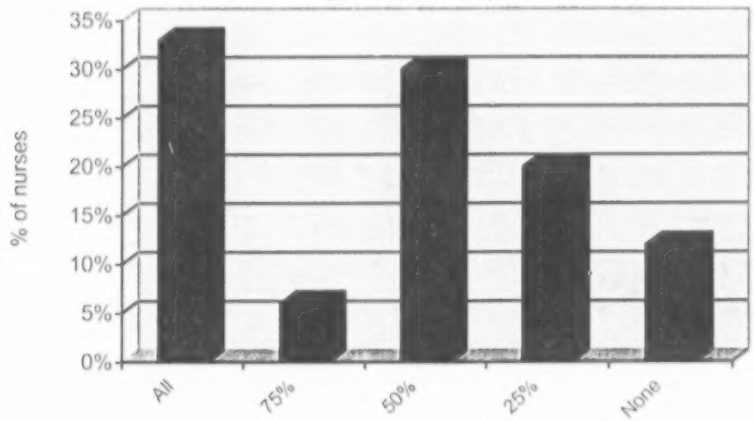
Computer access and Internet access were both available to 80% of nurses across all districts (Figure 4). However, only 21% considered themselves computer literate and only 36% rated themselves as familiar with using the Internet (data not shown). As well, only 51% had access to a computer at their workstation (data not shown). Nursing / medical journals, fax machines and Telehealth were available to a majority of nurses across districts (with the exception of Capital Health where only a minority of nurses knew that Telehealth sessions were available). Other resources, including a medical library, clinical nurse educators and a health science library, were less frequently available and their pattern of availability differed across districts. A medical library was available to a majority of nurses in the Colchester East Hants Health Authority, Cape Breton District Health and Capital Health. Clinical nurse educators were seen as being available in Capital Health and to some extent in the South Shore District Health Authority and in the Annapolis Valley Health. A health sciences library was frequently rated as available only in Capital Health.

Figure 4: Perceived availability of continuing education resources.



Nurses were almost all (95%) willing to spend time to fulfill the learning needs identified in the previous section. The most frequently suggested times were up to one day per week or up to one day per month (data not shown). Most nurses were willing to devote at least some of their personal time to fulfill their learning needs but only 33% of nurses were willing to complete all of their continuing education on their personal time (Figure 5).

Figure 5: Proportion of continuing education time nurses were willing to spend as personal time.



Nurses' preferences for being supported in receiving new knowledge and skills in cancer care at a continuing education level included: attending educational sessions, work place support (i.e., management supporting continuing education for nurses); having a list of nurses, health professionals and agencies to contact about specific issues; working with or shadowing a nurse who is a specialist in cancer care; and having a nurse come to their place of work to teach them (Table 2). This is illustrated by the following quotes:

> *"Lobby for hospitals to invest in the education of their staff; time and money for basics in understanding cancer, treatments, effects on patient/family, communication skills- as required competencies-not optional."*

"I think Cancer Care Nova Scotia can put forward the emphasis on nursing education and its necessity in cancer care. ... Finally nurses should be given time as well as financial compensation for completing such programs."

Table 2: Nurses' preferences for being supported in receiving new knowledge and skills in cancer education at a continuing education level.

Type of support	% of nurses who rated it in their top three choices
Attending education sessions	88%
Workplace support (i.e., management promoting continuing education for staff)	65%
List of nurses, health professionals and agencies I could contact about specific issues	52%
Working with or shadowing a nurse who is a specialist in cancer care	50%
Having a nurse come to my place of work to teach me	49%
Participating in distance education	34%
Through self-directed learning	31%
Using standardized packages to facilitate educational workshops	31%
Current nursing and medical texts / journals	29%
Participation in and attendance at professional nursing association meetings, conferences such as the Canadian Association of Nurses in Oncology	24%
Certified by the Canadian Nurses Association	14%
Assistance with implementing evidence-based practice	11%
Participation in research projects	10%
Journal clubs	6%

There were some differences between Capital Health and the other eight districts in their preferences. Capital Health nurses were less likely to prefer a list of nurses, health professionals and agencies to contact about specific issues and were less likely to prefer working with or shadowing a nurse who is a specialist in cancer care. Conversely, Capital Health nurses were more likely to prefer journal clubs than the other districts although preference for this option was still low.

Nurses were specifically asked about their interest in pursuing further education at a university level and were also asked about their interest in certification by the Canadian Nurses Association. Eight percent of nurses were interested in pursuing an undergraduate nursing degree. An even greater proportion of nurses (16%) were interested in pursuing a graduate nursing degree. An additional 9% of nurses were interested in pursuing a degree in fields other than nursing. There were no differences among districts or levels of expertise in regards to interest in pursuing continuing education at a university level. Twenty-six percent of nurses were willing to seek oncology certification by the CNA once they have met the qualification criteria [4] and 36% were willing to seek palliative care certification by the CNA when it becomes available. Nurses with self-rated oncology expertise who spent greater than 75% of their time caring for cancer patients were the most likely (52%) to be interested in oncology certification. There was interest in palliative care certification among nurses with varying levels of expertise in oncology and palliative care. However, nurses who indicated palliative care expertise but not oncology expertise were the most likely to seek certification in palliative care.

The preferred methods of receiving further education were person to person; meetings and conferences; and formal courses (Table 3). Preferences were similar across districts except for formal courses, which were preferred by a higher proportion of nurses in Capital Health.

[4] *The qualification criteria include a current registration/license as a registered nurse in Canada; completion of the application form and submission of all supporting documents and fees; having an endorsement/verification of experience completed by a supervisor; and either having accumulated a minimum of 3900 hours as a registered nurse in your nursing specialty over the last four years or successful completion of a post-basic nursing course or program in your specialty of at least 300 hours and having accumulated a minimum of 1950 hours as a registered nurse in your nursing specialty over the last three years.*

Table 3: Preferred methods to receive continuing education.	
Method	% of nurses who rated it in their top three choices
Persons to person	66%
Meetings / conferences	59%
Formal courses	49%
Videos	30%
Teleconferences	29%
Journals and texts	27%
Internet	23%
CD Rom	7%
E-mail	6%

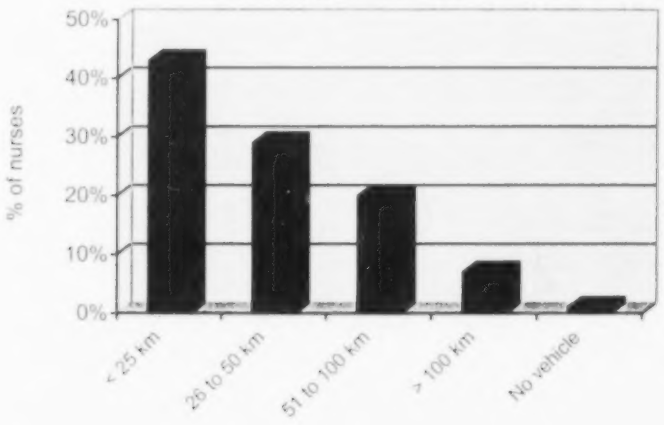
The preferred location to receive continuing education for a majority of nurses was their place of employment followed by their home or at a regional or community hospital (Table 4). These rankings varied considerably according to the district in which nurses worked. A majority of nurses in Capital Health preferred a university setting. A university setting was also preferred by over one-third of nurses in the Guysborough Antigonish Strait Health Authority and the Cape Breton District Health Authority but was less frequently preferred in other districts. A tertiary care hospital was most often preferred in Capital Health where it was in the top three choices of 28% of respondents. Between 47% and 70% of nurses in all districts except Capital Health rated regional and community hospitals in their top three choices compared to only 17% of nurses in Capital Health. Nova Scotia Community College campuses were chosen in South Shore District Health Authority District; Southwest Nova District Health Authority; Colchester East Hants Health Authority and the Pictou County Health Authority by at least 40% of nurses and were less frequently chosen in other districts.

Table 4: Preferred locations to receive continuing education.	
Method	**% of nurses who rated it in their top three choices**
Place of employment	88%
Home	67%
Regional or community hospital	50%
Nova Scotia Community College	30%
University	29%
Tertiary care hospital	18%

There was no clear-cut preference for times of day to receive continuing education. Sixty-two percent indicated they were willing to receive continuing education in the daytime followed by 39% in early evenings and 31% in late evenings. Most nurses, however, preferred to receive continuing education during weekdays in the Fall, Winter or Spring. The summer season, and especially summer schools, were decidedly unpopular.

Most nurses were not willing to travel very far to receive continuing education at their own expense (Figure 6). Nurses in the Cape Breton District Health Authority and in Capital Health were the least likely to be willing to travel more than 50 kms to attend continuing education events. Regardless of the distance they were willing to travel, most were willing to travel between once a week and once a month to receive continuing education.

Figure 6: Distance willing to travel to attend continuing education.



The decision to participate in continuing education is a complex one that depends on both personal and work-related factors. Many factors were rated as "very important" to the decision as to whether to participate in continuing education (Table 5).

Table 5: Factors that impact the decision of nurses to participate in continuing education.

Decision factor	% of nurses who rated it "very important"
Time	63%
Finances	58%
Program relevance	57%
Family demands	56%
Support from employer (e.g. Education leave, tuition reimbursement)	54%
Work demands	53%
Personal interest	53%
Scheduled program times	53%
Course availability	51%
Location of educational opportunity	51%
Program length	41%
Recognition/merit	20%
Confidence in ability to succeed	19%
Your age	19%
Education programs do not count toward a degree	9%

Finally, nurses were asked how *CCNS* can assist them in meeting their continuing education needs. Most responses on this open-ended question described specific types of opportunities that they wanted to see available such as in-person training (96 nurses), workshops (78 nurses) and educational materials (69 nurses). In addition, many nurses described the need for financial support and tuition reimbursement (82 nurses); educational opportunities in small towns and rural areas (63 nurses); and advocating for the importance of continuing education for nurses among service administrators/employers (34 nurses).

3.5 Self-Rated Knowledge and Skills

The needs assessment survey asked nurses to self-rate their current knowledge and skills in 135 specific areas under nine standards of care. Detailed breakdowns of their self-rated knowledge and skills on these areas by their expertise and time spent with cancer patients are available in the Technical Appendix for curriculum planning purposes. In this section, aggregated results on selected items are presented to give an overall picture of current knowledge and skills related to the top five needs identified by nurses (Table 6). As well, aggregated results are presented for each of nine standards.

Table 6: Current self-rated knowledge/skills related to the top 5 continuing education needs identified by nurses.

Continuing education need	Content area (question # on survey)	% of nurses expert / highly developed (self-rated)
1. Treatments, medications and side effects	Treatment methods (q.16)	19%
	Treatment side effects / management (q.17)	15%
	Advising patients re: complementary / alternative therapies (q.27)	7%
	Complementary / alternative therapies (q.46)	13%
2. Management of symptoms and complications	Recognition of oncological emergencies (q.15)	16%
	Treatment complications and management (q.18)	12%
	Interventions for dealing with clinical nursing problems (includes pharmacological management) e.g., alterations in skin integrity. (q.44)	48%
3. Basic information on cancer	Pathophysiology of cancer (q.13)	14%
	Types and stages of cancer (q.14)	10%
4. Interacting with patients and their families	Cancer and the family (q.22)	34%
	Therapeutic relationship (q.41)	59%
	Communication skills (q.42)	58%
5. Palliative care	End of life issues (q.29)	30%
	Palliation (q.40)	43%

Knowledge / skills related to the top three continuing education needs identified by nurses was lower than knowledge / skills related to needs # 4 and 5.

Less than one-quarter of nurses rated themselves as expert or highly developed on knowledge / skills related to treatments, medications and side effects. However, knowledge and skills related to treatment methods and to treatment side effects and management were higher among nurses with oncology expertise and certification who spent greater than 75% of their time caring for patients with cancer.

Knowledge/skills related to management of symptoms and complications varied depending upon the content area. Less than one-quarter of nurses rated themselves as expert or highly developed on knowledge / skills related to recognition of oncological emergencies and treatment complications and management. There was an exception in that nurses with oncology expertise and certification who spent greater than 75% of their time caring for patients with cancer had higher self-rated knowledge/skills in recognition of oncological emergencies and in some but not all types of treatment complications and management. Almost half of nurses rated themselves as expert or highly developed on knowledge / skills regarding interventions for dealing with clinical nursing problems (e.g., alterations in skin integrity). Nurses with oncology expertise rated themselves highest on knowledge / skills regarding interventions for dealing with clinical nursing problems.

Less than one-quarter of nurses rated themselves as expert or highly developed on knowledge / skills related to basic information on cancer, including types and stages of cancer and pathophysiology of cancer. Nurses with oncology expertise and certification who spent greater than 75% of their time caring for patients with cancer rated their knowledge / skills higher on pathophysiology of cancer than did other nurses.

Knowledge/skills related to interacting with patients and families varied depending upon the content area. Thirty-four percent of nurses rated themselves as expert or highly developed on knowledge / skills related to cancer and the family. The self-rating of knowledge / skills related to cancer and the family was highest among those with oncology expertise who spent greater than 75% of their time caring for patients with cancer. Knowledge / skills re: therapeutic

relationships and communication skills were self-rated as expert or highly developed by a majority of all groups of nurses.

Finally, between one-quarter and one-half of nurses rated their knowledge / skill levels related to palliative care (end of life issues and palliation) as expert or highly developed. Nurses with palliative care expertise and, to some extent, nurses with oncology expertise rated themselves higher in this area.

The average proportion of nurses who rated themselves "expert" or "highly developed" on all the items for each standard of care are found in Table 7. The lowest proportion of nurses with expert or highly developed self-rated knowledge and skills were found under Standard 1 and 3. Standard 1 deals with individualized care and included items related to pathophysiology of cancer; types and stages of cancer; oncological emergencies; treatments; technical skills; impact of cancer and psychosocial and spiritual responses. Standard 3 deals with care that is self-determining and included items related to information needs through the cancer journey; providing information to meet the needs of different clients; self-efficacy; advising patients re: clinical trials, complimentary and alternative therapies, and using the Internet as an information source; and end of life issues. Again, it should be noted that the results are available individually for each item under all nine standards of care in the Technical Appendix that is available from *CCNS* (see Acknowledgements section for information on how to receive a copy).

Table 7: Current self-rated knowledge/skills on each standard of care.

Standard	% of nurses expert / highly developed (self-rated)
Standard 1: Patients and families are entitled to individualized care.	19%
Standard 2: Patients and families are entitled to family centered care (family includes any person(s) significant to the patient).	34%
Standard 3: Patients and families are entitled to care that is self-determining.	24%
Standard 4: Patients and families are entitled to care that is respectful and responsive to their community of living.	33%
Standard 5: Patients and families are entitled to care that is coordinated across the continuum of cancer care.	34%
Standard 6: Patients and families are entitled to supportive care.	43%
Standard 7: Patients and families are entitled to care that is based on theory and science.	35%
Standard 8: Patients and families are entitled to care that is professional and ethical.	41%
Standard 9: Patients and families are entitled to care that is patient focused and is professionally lead by nurses.	35%

4. Discussion and Recommendations

The survey was completed by 625 nurses from a broad cross-section of roles, settings and districts with varying levels of experience and expertise related to oncology and palliative care. There was a strong level of interest in continuing education regarding cancer as evidenced by the number of nurses who filled in an extensive survey on the issue and their stated willingness to be involved in and to devote at least some of their personal time to continuing education. Most nurses indicated a willingness to spend up to a day per week or a day per month on continuing education. Nurses indicated that they were motivated to provide the best, most effective care and to support patients and their families.

One of the objectives of this survey was to "provide the basis, in collaboration with key oncology nursing partners, for the design and implementation of educational programs that support the desired standards of care for cancer patients." The discussion of survey results and a subsequent planning session with the Nursing Advisory Group led to the development of the recommendations for the design and implementation of cancer education for nurses. Key findings from the survey are listed in point form in this section. Recommendations are listed under each key finding. It should be noted that these recommendations are part of a larger effort by the Education Advisory Group of *CCNS* and their implementation depends upon factors such as availability of finances and human resources, as well as various other constraints.

It was felt by the Nursing Advisory Group that these educational programs must go hand in hand with the development of standards and cancer programs in each area. Without the processes and structures to support enhanced cancer care, education will not be optimally effective in improving care.

Key Finding # 1: Educational Needs and Priorities: The top five issues identified as continuing education needs included: treatments, medications and their side effects; management of symptoms and complications; basic information on cancer; interacting with and supporting patients and families; and palliative care.

These top five issues were fairly consistent among nurses with varying levels of expertise and time spent seeing patients with cancer. The Nursing Advisory Group felt that education may be

most effective if basic information on cancer such as pathophysiology is combined with information on applied topics such as treatments, medications and side effects. Without a good foundation, it may be difficult to learn and to keep current with a large list of new medications and treatments. Educational opportunities may still need to be promoted on the basis of the applied topics in order to stimulate interest and participation.

Recommendations:

1. *CCNS* lead the development and support the delivery of a series of continuing education modules on the above topics, building on what's already available in those areas. These modules would be tailored for specific disciplines, districts and settings, as needed.

2. *CCNS* support the development of advanced modules, subsequent to the completion of the advanced modules, based on self-learning packages such as case studies and distance learning with mentors.

3. *CCNS* support oncology nurses by providing mentors for in-person training of specialized oncology skills.

Key Finding # 2: Preferred Educational Methods: In-person methods of education, delivered close to their place of employment, was most often preferred.

The preferred methods of receiving continuing education identified included: person to person; meetings and conferences; and formal courses. Videos, teleconferences and other methods were much less preferred. The preferred location was at their place of employment followed by their home and other sites such as regional or community hospitals or college or university settings.

Recommendations:

4. *CCNS* organize and support the development and delivery of in-person cancer educational modules during scheduled work times in each District. This may include supporting the development of clinical nursing resources or experts in cancer care in each district to lead the implementation of the basic modules.

5. *CCNS* ensure that educational opportunities are made available to a broad cross-section of nurses, including those based in institutions and in the community, who care for patients with cancer since there was a high level of expressed interest and need among nurses who care for patients with cancer in a wide variety of levels of expertise and settings. Regional or community hospitals in each district may provide a location that would be accessible to nurses in various facilities and in the community.

6. Once the basic modules have been made available across all districts, *CCNS* continue its work to make additional resources and updates available through distance education or self-directed learning opportunities. This would maximize the use of resources and capitalize on the willingness of nurses to carry out some of their personal education on their personal time. A directory of available educational resources and opportunities and a directory of health professionals and agencies who could be called regarding specific issues would be a useful and credible undertaking for *CCNS*.

Key Finding # 3: University Education and Certification: Some nurses were interested in pursuing an undergraduate or graduate nursing degree. Even more were willing to seek oncology certification by the CNA once they have met the qualification criteria or to seek palliative care certification by the CNA when it becomes available.

Eight percent of nurses were interested in pursuing an undergraduate nursing degree and an even greater proportion (16%) were interested in pursuing a graduate nursing degree. As well, 26% of nurses were willing to seek oncology certification by the CNA once they have met the

qualification criteria and 36% were willing to seek palliative care certification by the CNA when it becomes available.

Recommendations:

7. *CCNS* facilitate access to formal oncology nursing programs at both an undergraduate and graduate university level. This might include lobbying for the availability of flexible programs for nurses in all districts and lobbying for financial supports.

8. *CCNS* support nurses to attain the educational requirements for certification by the CNA in both oncology and palliative care by ensuring that education modules and opportunities are available to supplement the study guides available from CNA.

Key Finding # 4: Human Resources: There is a high proportion of nurses with many years of experience in caring for patients with cancer.

A majority of nurses had been employed in a cancer care setting for 11 or more years. Many of these nurses had been employed in a cancer care setting for 20 or more years. The high proportion of experienced nurses who are nearing retirement may contribute to a lack of experienced oncology nurses in the future if new nurses do not enter the field.

Recommendations:

9. *CCNS* work with services and facilities to support experienced cancer care nurses to mentor newer nurses in the field.

10. *CCNS* work with the Department of Health, College of Registered Nurses of Nova Scotia (CRNNS) and other stakeholders to examine potential human resource shortages in oncology nursing.

11. *CCNS* work with stakeholders to develop and implement a communication program to increase the profile of oncology nursing as a career choice.

Key Finding # 5: Knowledge and Skills Re: Standards of Care: **A small proportion of nurses rated themselves as expert or highly developed in many areas of knowledge and skills related to standards of care, especially related to treatments, medications and side effects; management of symptoms and complications; and basic information on cancer.**

The low self-ratings may be due in part to an unwillingness to rate themselves as "experts" although they could also have chosen "highly developed". This low self-rating may also be due to the sub-specialization of nurses within oncology nursing. For example, nurses working with a particular kind of cancer or cancer "site" (e.g., thoracic cancer) [5] would not need to be expert or highly developed in other cancer sites. Self-ratings of skill and knowledge in standards of care for palliative care were relatively high. This may be due to the fact that palliative care crosses all cancer sites as well as other diseases so nurses are more exposed to it.

There was a consistent gradient in self-rated knowledge and skills related to standards of care whereby nurses with oncology certification, nurses with oncology or palliative care expertise, and nurses who spent a greater portion of their time caring for patients with cancer consistently had higher self-rated levels of knowledge/skills in many areas.

Recommendations:

12. *CCNS* support curriculum development by making detailed results regarding knowledge and skills under each standard of care (available in the Technical Appendix) broadly available.

[5] *Cancer Care Nova Scotia has adopted the Cancer Site Team (CST) approach to cancer care. There are 13 Cancer Site Teams. Each team has an interest in one kind of cancer or cancer "site". The Cancer Site Teams in Nova Scotia are: Thoracic, Breast, Skin, Head & Neck, Gynecological, Genitourinary, Gastrointestinal, Lymphoma, Pediatric, Musculoskeletal, Leukemia, Neurological and Supportive Care.*

Key Finding # 6: Basis for Design and Implementation of Continuing Education: Many factors contribute to the decision to participate in continuing education although time, finances and workplace support appear to be the most important ones.

Financial compensation to participate in continuing education, especially for tuition reimbursement and travel costs, was asked for by many nurses. This is especially important for nurses who are working part time or casual who may not have benefits and the financial resources to participate in continuing education. Workplace support for continuing education by managers/administrators was identified as an important need that is tied into human resource issues and the availability of replacement nurses.

Recommendations:

13. *CCNS* work with various stakeholders, including the Department of Health, to increase the level of resources devoted to continuing education for nurses. Once increased funding is available, *CCNS* advocate to service administrators for the importance of continuing education for nurses and the need for protected time and other resources to take advantage of those opportunities.

14. *CCNS* establish a Nurses Education Sub-Committee with representation from across the province, under the *CCNS* Education Advisory Group, to review these results and to make recommendations for implementation.

To conclude, the survey results and subsequent discussion of those results provided advice as to how to pursue the recommendations listed above. It is acknowledged that educational efforts should build on what is already available and connect to existing programs to make best use of resources. One education package on a specific topic will not meet the needs of all nurses. Each package should be tailored to meet the needs of nurses with different levels of expertise working in a variety of settings and locations. It is necessary to work with nursing leaders in each area to ensure that each educational package meets their needs.

APPENDIX A: Nurses Needs Assessment Advisory Group

MEMBER'S NAME	FACILITY	JOB TITLE
Gail Archibald, RN, PhN	VON Canada	Branch Director
Mona Baryluk, RN, BN, MEd	Cape Breton Regional Hospital	Director, Cape Breton Cancer Centre
Lorna Butler, PhD, RN	Dalhousie University	Associate Professor
Laura Carmichael, RN, BN	QEII Health Sciences Centre	Clinical Nurse Educator
Judith Cleary, BScN	QEII Health Sciences Centre	Clinical Nurse Educator
Lynn Coulter, RN, BN, MN	QEII Health Sciences Centre	Expanded Role Nurse
Joanne Cumminger, BScN, CON(C)	Aberdeen Hospital	Cancer Patient Navigator
Ethel Ells, RN	Valley Regional Hospital	Oncology Nurse
Donna Grant, BScN, CON(C)	QEII Cancer Care Program	Oncology Nurse Educator
Joan Hamilton, BN, MSc (A)	QEII Health Sciences Centre	Clinical Nurse Specialist
Debbie Horne, BScN, RN	St. Martha's Regional Hospital	Manager, Cancer & Supportive Care Services Hospital in the Home Program
Rona MacLean, RN	Strait Richmond Hospital	Emergency Room Nurse
Marguerite Miller, RN	Home Care Nova Scotia	Care Provider
Anne Murray, BSc, MAEd	*Cancer Care Nova Scotia*	Education Coordinator
Annette Penney, BScN	IWK Health Center	Family Care Coordinator for Pediatric Oncology
Brenda Sabo, RN, MA,	*Cancer Care Nova Scotia*	Coordinator, Surgical Oncology Network
Cathy Schwindt, RN, BN	QEII Health Sciences Centre	Health Services Manager
Judy Simpson, RN, BN, MEd	*Cancer Care Nova Scotia*	Coordinator, Palliative and Supportive Care
M. Ruth Waters, RN	Dr. E. O' Sullivan Family Practice Roseway Hospital	Family Practice Nurse Staff Nurse
Rosemarie Wood, RN	Continuing Care	Care Coordinator

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Furthering Cancer Education in Nova Scotia:

Nurses Needs Assessment

Executive Summary

November 2002

Cancer Care Nova Scotia

Executive Summary

The needs assessment was undertaken by *Cancer Care Nova Scotia (CCNS)* in collaboration with the Canadian Association of Nurses in Oncology (CANO), Nova Scotia Branch. The purpose of the needs assessment was to obtain the best information possible to assist in planning education programs for nurses working with individuals and families living with or at risk for cancer. The questionnaire was developed in consultation with the Nurses Advisory Group of *CCNS*. All nurses with oncology and/or palliative care expertise were sampled along with a random sample of all other nurses. Questionnaires were mailed in November 2001 followed later by a reminder postcard and a reminder letter.

The overall response rate was 49% ranging from 40% to 56% per district. The responses included 625 completed surveys (27% of the sample) and 530 nurses who indicated they did not provide care for cancer patients or their families (23% of the sample). Nurses responded from a variety of settings, education levels and nursing roles. Nurses were, for the most part, very experienced in cancer care. Fifty-three percent of nurses had been employed in a cancer care setting for 11 years or more. About half of nurses spent more than 25% of their time caring for cancer patients and about half spent less time. Twenty-four percent of nurses indicated self-rated expertise in one or more areas of oncology and 35% indicated self-rated expertise in palliative care.

Nurses identified their top five issues that required continuing education in an open-ended question. The most frequently mentioned needs, in descending order, were to know more about: treatments, medications and their side effects; management of symptoms and complications; basic information on cancer; interacting with/supporting patients and families; and palliative care. The issues requiring continuing education were very consistent across categories of expertise and time spent with cancer patients; districts; years spent caring for patients with cancer and education level.

The survey also assessed the continuing education resources available to nurses and their willingness to devote time to continuing education. Computer access and Internet access were both available to 80% of nurses across all districts (at work and/or at home). However, only 21% considered themselves computer literate and only 36% rated themselves as familiar with using the Internet. Nursing/medical journals, fax machines and Telehealth were available to a majority of nurses across districts. Nurses were almost all (95%) willing to spend time to fulfill their learning needs. The most frequently suggested times were up to one day per week or up to one day per month. Most nurses were willing to devote at least some of their personal time to fulfill their learning needs but only one-third of nurses were willing to complete all of their continuing education on their personal time.

Nurses' preferences for being supported in receiving new knowledge and skills in cancer care at a continuing education level included: attending educational sessions, work place support (i.e., management supporting continuing education for nurses); having a list of nurses, health professionals and agencies to contact about specific issues; working with/shadowing a nurse who is a specialist in cancer care; and having a nurse come to their place of work to teach them. Eight percent of nurses were interested in pursuing an undergraduate nursing degree and 16% of nurses were interested in pursuing a graduate nursing degree. Twenty-six percent of nurses were willing to seek oncology certification by the Canadian Nurses Association (CNA) once they have met the qualification criteria and 36% were willing to seek palliative care certification by the CNA when it becomes available.

The preferred methods of receiving further education were person to person; meetings and conferences; and formal courses. The preferred location to receive continuing education for a majority of nurses was their place of employment followed by their home or at a regional or community hospital. There was no clear-cut preference for times of day to receive continuing education. Sixty-two percent indicated they were

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willing to receive continuing education in the daytime followed by 39% in early evenings and 31% in late evenings. Most nurses, however, preferred to receive continuing education during weekdays in the fall, winter or spring. Less than one-third of nurses were willing to travel more than 50 km at their own expense to receive continuing education. Regardless of the distance they were willing to travel, most were willing to travel between once a week and once a month to receive continuing education. The decision to participate in continuing education depends on both personal and work-related factors including time, finances, program relevance, family demands, support from their employer, work demands and many other factors.

The needs assessment survey asked nurses to self-rate their current knowledge and skills in 135 specific areas under nine standards of care. Detailed breakdowns of their self-rated knowledge and skills on these areas are available in the Technical Appendix for curriculum planning purposes. In this summary report, aggregated results on selected items are presented to give an overall picture of current knowledge and skills related to the top five needs identified by nurses as well as for each of the nine standards.

The discussion of survey results and a subsequent planning session with the Nurses Advisory Group led to the development of the recommendations for the design and implementation of cancer education for nurses. It should be noted that these recommendations are part of a larger effort by the Education Advisory Group of *CCNS* and their implementation depends upon factors such as availability of finances and human resources, as well as various other constraints. The recommendations were as follows:

1. *CCNS* lead the development and support the delivery of a series of continuing education modules on the above topics, building on what's already available in those areas. These modules would be tailored for specific disciplines, districts and settings, as needed.
2. *CCNS* support the development of advanced modules, subsequent to the completion of the advanced modules, based on self-learning packages such as case studies and distance learning with mentors.
3. *CCNS* support oncology nurses by providing mentors for in-person training of specialized oncology skills.
4. *CCNS* organize and support the development and delivery of in-person cancer educational modules during scheduled work times in each district. This may include supporting the development of clinical nursing resources or experts in cancer care in each district to lead the implementation of the basic modules.
5. *CCNS* ensure that educational opportunities are made available to a broad cross-section of nurses, including those based in institutions and in the community, who care for patients with cancer since there was a high level of expressed interest and need among nurses who care for patients with cancer in a wide variety of levels of expertise and settings. Regional or community hospitals in each district may provide a location that would be accessible to nurses in various facilities and in the community.
6. Once the basic modules have been made available across all districts, *CCNS* continue its work to make additional resources and updates available through distance education or self-directed learning opportunities. This would maximize the use of resources and capitalize on the willingness of nurses to carry out some of their personal education on their personal time. A directory of available educational resources and opportunities and a directory of health professionals and agencies who could be called regarding specific issues would be a useful and credible undertaking for *CCNS*.
7. *CCNS* facilitate access to formal oncology nursing programs at both an undergraduate and graduate university level. This might include lobbying for the availability of flexible

programs for nurses in all districts and lobbying for financial supports.

8. *CCNS* support nurses to attain the educational requirements for certification by the CNA in both oncology and palliative care by ensuring that education modules and opportunities are available to supplement the study guides available from CNA.

9. *CCNS* work with services and facilities to support experienced cancer care nurses to mentor newer nurses in the field.

10. *CCNS* work with the Department of Health, College of Registered Nurses of Nova Scotia (CRNNS) and other stakeholders to examine potential human resource shortages in oncology nursing.

11. *CCNS* work with stakeholders to develop and implement a communication program to increase the profile of oncology nursing as a career choice.

12. *CCNS* support curriculum development by making detailed results regarding knowledge and skills under each standard of care (available in the Technical Appendix) broadly available.

13. *CCNS* work with various stakeholders, including the Department of Health, to increase the level of resources devoted to continuing education for nurses. Once increased funding is available, *CCNS* advocate to service administrators for the importance of continuing education for nurses and the need for protected time and other resources to take advantage of those opportunities.

14. *CCNS* establish a Nurses Education Sub-Committee with representation from across the province, under the *CCNS* Education Advisory Group, to review these results and to make recommendations for implementation.

The Nurses Advisory Group felt that educational efforts should build on what is already available and connect to existing programs to make best use of resources. Educational opportunities should be tailored to meet the needs of nurses with different levels of expertise working in a variety of settings and locations. It is necessary to work with nursing leaders in each area to ensure that each educational package meets their needs.

If you wish to receive the *Furthering Cancer Education in Nova Scotia: Nurses Needs Assessment, Final Report and/or the Technical Appendix*, please contact:

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